

# Table of Contents

## Preface

<b>A Multi-Fluid Investigation of the Membrane Supporting Grid Effects on the Richtmyer-Meshkov Instability</b>	
M. Al-Marouf and R. Samtaney	1
<b>Computational Fluid Flow Study on the Pressure Fluctuation Caused by the Vortex Flow Arising from Underwater Exercises of Arthritis Patients</b>	
J.I. Kim, K.H. Choi and S.Y. Park	8
<b>Analysis of the Leakage-Flow-Induced Vibration of a Slip Joint in a Jet Pump of a Boiling Water Reactor</b>	
J.C. Castro, E.H. Palafox, I.A.A. Sánchez, L.H. Hernández-Gómez, P. Ruiz-López and A.A. Molina	23
<b>Heat Treatments Effects on Nickel-Based Superalloy Inconel 713C</b>	
B.B. Galizoni, A.A. Couto and D.A.P. Reis	32
<b>Measurement of the Thermal Properties of Innovative Highly-Insulating Non-Structural Concretes</b>	
M. Kušnerová, M. Harničárová, J. Valíček, Z. Palková, Z. Tkáč, A. Panda, J. Kmec and O. Lukáč	41
<b>A New Thermal Model in SAE-AISI 1524 Friction Stir Welding</b>	
E.A. Bonifaz	53
<b>Interfacial Tension and Viscosity Alteration of Samarium Doped Yttrium Iron Garnet (YIG) Nanofluid under the Presence of Electromagnetic Waves</b>	
K.C. Lee, M.N.M. Sukri, B.H. Guan, H.M. Zaid and H. Soleimani	64
<b>Filmwise Condensation of Steam on Pin Fin Arrays Fabricated by Selective Laser Melting</b>	
J.Y. Ho and K.C. Leong	71
<b>Casson Model of MHD Flow of SA-Based Hybrid Nanofluid Using Caputo Time-Fractional Models</b>	
S. Aman, S.M. Zokri, Z. Ismail, M.Z. Salleh and I. Khan	83
<b>Study on Flow Characteristics of NGV Injectors Using Plungers with Varied Inner Diameters</b>	
T.J. Yoon, K.S. Kim and D.S. Choi	91
<b>Influence of Silica Nanofluid on CO<sub>2</sub> Mass Transfer and Hydrocarbon Property Alteration in a Carbonated Water-Hydrocarbon System</b>	
N. Bagalkot, A.A. Hamouda and O.M. Isdahl	99
<b>Heat Radiation Effect of Passenger Car Headlamp Using Plate Heat Pipe</b>	
T.H. Park, H.S. Ji, S.Y. Kim, O.W. Kim and K.S. Kim	112
<b>Numerical Modeling of Heat Transfer in Taylor-Couette-Poiseuille Systems</b>	
K. Hamidi, T. Rezoug and S. Poncelet	125
<b>Lattice Boltzmann Equations-Based Model of the Convection Melt Flow Driven by the Combined Effects of Buoyancy, Surface Tension and Magnetic Body Forces with Heat Generation</b>	
F. Mechighel, S.B. Aoua and S. Dost	133
<b>Lineal Elastic Fracture Mechanics Analysis Applied for the Evaluation of the Structural Integrity of a Boiling Water Reactor Vessel Considering Neutronic Irradiation</b>	
I. Alvarez-Loya, Y. López Grijalba, L.G. Carbajal-Figueroa, L.H. Hernández-Gómez, P. Ruiz-López and J.A. Beltrán-Fernández	151
<b>Magnetization of Ferrofluid and its Influence on Improving Oil Recovery</b>	
H. Soleimani, N.R.A. Latiff, N. Yahya, H.M. Zaid, M. Sabet, K.C. Lee and M. Adil	161
<b>Effect of Velocity and Diffusion Functionality on Nonlinear Mass Transfer Mechanisms in Solvent Oil Recovery</b>	
S. Lorimer and T. Artymko	168
<b>Analysis of the Geometric Constraints Employed in Constructual Design for Oscillating Water Column Devices Submitted to the Wave Spectrum through a Numerical Approach</b>	
M.d.N. Gomes, M.J. de Deus, E.D. Santos and L.A. Isoldi	193